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ABSTRACT

A study explored how teenage audiences interpreted brochures intended to discourage them from taking drugs, and more broadly, how readers respond to the visual and verbal messages presented through brochures that aim to inform and persuade. Over 100 brochures and handouts from national and local drug prevention agencies were collected. A subset of brochures intended for a junior high school, high school, or a college audience were selected. A total of 297 students from western Pennsylvania, West Virginia, and eastern Ohio, ranging in age from 11 to 21 years took part in focus groups, surveys, and one-on-one interviews, or provided think-aloud reading protocols. Five document designers were interviewed about their work, about their process in designing documents, about who made decisions regarding the final content, and about who had control over the final text. Results indicated that drug education literature as currently designed is not working very well for teenagers--the problem is related to the "simplistic 'just say no'" rhetorical stance of the drug prevention agencies and to what teenagers view as a condescending attitude toward them. Document designers placed too much faith in the adequacy of intuition-driven audience analysis. Teenagers' comments indicated a significant gap between the readers document designers imagined and the real audience. The drug education literature seemed to present an ethos that showed "someone had noticed the problem" rather than "someone was doing something about it." (Contains 24 notes, 36 references, 7 tables, and 1 figure of data.) (RS)

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FINAL REPORT

EXPERIMENTAL APPROACHES TO EVALUATING WRITING

Study 2

"Just Say No to Drugs" and Other Unwelcome Advice: Exploring the Creation and Interpretation of Drug Education Literature

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February, 1996

CS 215366

Project Directors: Karen A. Schriver and John R. Hayes

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"Just Say No to Drugs" and Other Unwelcome Advice: Exploring the Creation and Interpretation of Drug Education Literature

Karen A. Schriver
John R. Hayes
Ann E. Steffy Cronin

This study explores how thinking and feeling come into play when readers interpret messages directed at them. It investigates these issues through a study of how drug education literature is created and interpreted. It provides a view of this context from three unique perspectives: (1) teenagers' interpretations of messages directed at them, (2) gatekeepers' opinions about what they look for in a drug prevention messages (e.g., teachers or guidance counselors), (3) document designers' ideas about creating drug prevention messages (and what the organizations they worked for were trying to accomplish). This study shows how thoughts and feelings undergird not only readers' ideas about the content, but also their impressions of the person or organization presenting the content (the persona, organizational voice, or corporate identity). The results of this study suggest that much of the available drug education literature may be increasing the distance between teenagers and drug prevention agencies instead of closing the gap. This study provides evidence that "catching the reader in the act" of interpretation can provide important clues about how readers think and feel. This study also shows that when document designers envision their audience, the kind of model of the reader they construct matters a great deal. Most of all, this study provides a sense of the dynamic interplay between cognition and affect during interpretation.

Every day situations arise in which readers must deal with persuasive documents that are designed to encourage them to act. Although some persuasive documents are of no social significance and merely try to get readers to buy something, others can play an important role in society. It matters how they are written and visualized. It matters how they are read and interpreted. The study described here explores a context in which good writing and good visual design have the potential make a difference: the design of drug education literature. In particular, it explores how drug prevention materials are created and understood by investigating the context in which drug education materials are designed and interpreted. On one hand, it investigates teenagers' interpretations of drug education literature. On the other, it studies how such literature is produced and the difficulties that may arise when drug prevention organizations try to

communicate with audiences who are "culturally different" from themselves. Our concern was with what happens when writers and graphic designers try to communicate with readers who differ from themselves, for example, in age, race, gender, education, or socio-economic background.

The results of this study suggest that drug education literature as currently designed is not working very well for teenagers. The problem is not that the writing is unclear. Rather, the problem is related to the simplistic "just say no" rhetorical stance of the drug prevention agencies and to what teenagers view as a condescending attitude toward them. As we will show, teenagers form impressions not only of the message but also of the messengers who create the materials and of the messengers' attitudes about the reader. One striking finding of this study is that much of the drug education literature currently available may be increasing the cultural gap between teenagers and drug prevention agencies. At a time when education may be one of the most potent weapons in our nation's war on drugs, can we afford not to understand what happens when writers and designers attempt to communicate across cultural boundaries? This study was an attempt to take a hard look at this question.

Goals for the Study

The aim of this study was to understand how teenage audiences interpret brochures intended to discourage them from taking drugs, and more broadly, with how readers respond to the visual and verbal messages presented through brochures that aim to inform and persuade. We felt that the area of drug education literature would provide a challenging rhetorical situation to study because it is a context in which the audience's beliefs, values, and knowledge may stand in stark contrast to those of professionals employed to write and visualize the documents. Professionals who design drug education literature typically differ from their audiences in age, in point of view, in experience with drugs, in education, and sometimes, in race, culture, and social class. Designing documents that communicate across these social and cultural boundaries is complex because professionals may have difficulty in anticipating how someone who may be quite unlike themselves will interpret their ideas.

Furthermore, even when professionals are good at "getting on a level" with their readers, the organization sponsoring the document may constrain the "voice" document designers can create by controlling (and in the worst cases, censoring) what may be said or what may be illustrated.[1] This study showed us how critical it is to consider the possible interactions and conflicts among the values of the document designer, the organization, gatekeepers, and the intended audience. It also made us aware of how important it is to learn about what audiences believe and value by listening to them as they interpret documents.

Where Our Research Team Started

We began by collecting over 100 brochures and handouts from national and local drug prevention agencies.[2] Many of these materials were funded by U.S. taxpayer dollars or through grants to nonprofit organizations during the Reagan administration. From this corpus, we selected a subset of brochures intended for a junior high school, high school, or a college audience.[3] Among the brochures we studied were the following:

- *Don't Lose a Friend to Drugs*
- *Here Are Some Snappy Answers to the Question: Want Some Alcohol or Other Drugs?*
- *Smokeless Tobacco: It's Not as Safe as You Think*
- *Crack: Cocaine Squared*
- *Crack: The New Cocaine*
- *Ice: Crystal Methamphetamine*
- *Pot: A Guide for Young People*
- *Marijuana: Health Effects*
- *The Effects of Alcohol*
- *Inhalants*
- *Facts About Anabolic Steroids*

To learn about how these documents were designed and interpreted, we looked at the situation from three perspectives:

- teenagers' interpretations of messages directed at them through the brochures

- gatekeepers' (e.g., teachers or guidance counselors)4 opinions about what they look for in drug prevention messages, particularly in brochures

- document designers' ideas about what they were trying to do in creating the drug prevention messages (and what the organizations they worked for were trying to do)

We turn now to describe what our research team did and what we found out about these perspectives.

Exploring Teenagers' Interpretations of Drug Education Literature

We investigated students' responses to the drug education brochures by asking them to participate in focus groups, surveys, and one-on-one interviews, or to provide think-aloud reading protocols. A total of 297 students from western Pennsylvania, West Virginia, and eastern Ohio, ranging in age from 11 to 21 took part in the project.[5] These students came from diverse educational settings: inner-city and suburban junior high schools and high schools, private prep schools, parochial schools, community literacy centers, karate schools, business schools, vocational-education schools, and private colleges.

Our research team asked teenagers to participate in surveys, think-aloud protocols, interviews, and focus groups. The surveys were designed to evaluate students'

- understanding of the facts about the drugs (e.g., how many times can a person smoke crack before becoming addicted?)

- opinions about the writing and visual design of the brochures

- beliefs about the persuasiveness of the brochures

The think-aloud protocols provided a detailed view of students' sentence-by-sentence, picture-by-picture comprehension of the brochures. The interviews and focus groups elicited students' general impressions of the content presented in the brochures. With the permission of students and their teachers, we videotaped the focus groups, interviews, and think-aloud protocols.

We visited classrooms where teachers allowed us to talk with their students for a few hours in the morning or afternoon. We began by asking students to read a drug brochure and then to evaluate its quality by responding to a survey. From each class, we asked a few students to provide think-aloud reading protocols or to take part in one-on-one interviews while the other students read silently and filled in the survey. After the surveys, protocols, or interviews, the entire class participated in a focus group session, during which we prompted students to respond to the features of the brochures that struck them as effective or ineffective. We posed questions such as these:

Overall impression

- What is your impression of the brochure?
- What about this brochure makes you want to read it?
- If you saw this brochure on a rack in a guidance counselor's office, would you pick it up? Would you take it home?

Interpretation of the main ideas

- What ideas does the brochure tell you about?
- What are the main points of the brochure?
- Does this brochure help you make an opinion about its main points?
- Does this brochure change your mind about anything?

Impression of the visual design

- How do you like the way this brochure looks?
- What do you think about the pictures, tables, or diagrams?

- What about the appearance of this brochure catches your eye and makes you want to look it over?

Impression of the author

- Did you imagine an author when you read this?
- If you did imagine an author, what is the author like?
- Can you point to places in the brochure that make you feel this way?

Impression of the intended audience

- What does the author think the reader is like?
- Does the author have a point of view about the reader?
- Can you point to places in the brochure that make you feel this way?

Students told us several important things about the drug education literature: how well the writing "spoke" to them, how well the graphics and visual design worked, who they believed might have produced the drug literature, and who they thought the author was writing to. They also provided feedback regarding the effectiveness of the brochures, that is, would these documents actually have any effect on someone who might be considering taking drugs?

Teenagers Respond to the Text and Graphics

Students' responses revealed that although most of the brochures were clearly written and visualized in terms of sentence structure, choice of language, and ease of understanding the graphics, they were not working very well for the intended audience. We found that student readers' interpretations developed partly in response to the main ideas of the drug education literature and partly from their perception of who they believed wrote the text and why. In general, students understood the facts about the drugs discussed in the brochures, that is, they had little trouble comprehending the main points. They also had few problems figuring out what the pictures were intended to represent, at least on a literal level; they could readily see that a diagram of a heart was supposed to be a heart. But importantly, students' understanding of the main ideas and the

intended meaning of the graphics did not appear to have much to do with whether they were persuaded by them.

Students' interpretations of the "just say no" message often ran counter to the expectations of the organizations sponsoring the brochures. Students were quick to infer an authorial agenda in presenting the message, agendas that document designers and the organizations they worked for may or may not have intended. Teenagers displayed considerable rhetorical sophistication in evaluating the text and graphics directed at them. They were astute in making inferences about the author and in identifying textual clues that suggested the author's beliefs about them. An examination of students' responses to several of the brochures makes these points vividly.

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Insert Figure 1 here

Figure 1. *Don't Lose a Friend to Drugs*

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Don't Lose a Friend to Drugs (shown in Figure 1) is a tri-fold brochure aimed at middle-school students and high-school freshmen. Of the 90 students who evaluated this brochure, only 2 students liked it. One student remarked that the pictures in the brochure made the whole thing seem "too kiddy," and, as one ninth-grader said, "If I looked at the picture, I'd think it was for eight year-olds and I wouldn't read it." Another told us, "If I saw this on a rack, I'd pass it by."

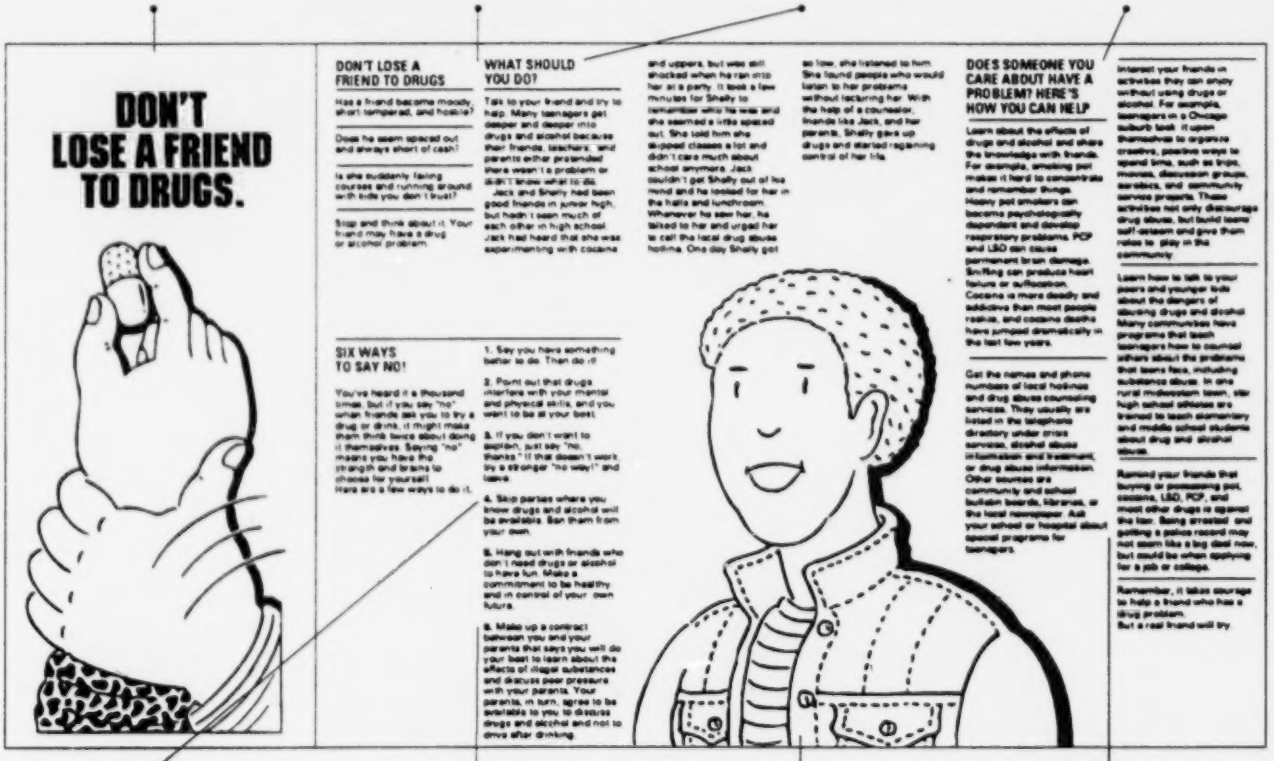
Some students zeroed in on how outdated the character portrayed in the brochure was; one student described him as "a seventies kind of guy," while another scoffed, "Is that [his hair] supposed to be an Afro? What a throwback to Jheri curl or my dad's Afro-sheen days." Students were insulted by the character's implied ethnicity; one asked: Why is a black man on the inside in the middle? Why do they show black males in all these brochures?"[6]

Some guy's trying to take a pill and another's trying to stop him. It's good but, it needs more detail and more colors to draw your attention to it...or a picture of a guy who's really messed up. As is, you're like what's up with this guy?

This sounds so typical... person uses drugs, person gets help, person gets life back on track. It's like whenever you get one of these pamphlets that's all it is. Person gets help at some center and he's OK. Tell about him dying or him destroying his life.

Maybe if you explain more facts about drugs or what they do to you. Or even when you're under the influence what kinds of things happen to you. Many teenagers don't know all the effects of drugs, so like you could tell true stories of what happened.

I think that you could just give them the facts and it's their decision whether they want to try them or not. You should like have a list of drugs and effects–just state the facts. This is too long, nobody's going to read it.


DON'T LOSE A FRIEND TO DRUGS.
DON'T LOSE A FRIEND TO DRUGS
Has a friend become moody, short-tempered, and hostile?
Does he seem spaced out and always short of cash?
Is she suddenly taking courses and running around with kids you don't trust?
Stop and think about it. Your friend may have a drug or alcohol problem.
WHAT SHOULD YOU DO?
Talk to your friend and try to help. Many teenagers get deeper and deeper into drugs and alcohol because their friends, teachers, and parents either pressurized them or wasn't a problem or didn't know what to do.
Jack and Shelly had been good friends in junior high, but hadn't seen much of each other in high school. Jack had heard that she was experimenting with cocaine and uppers, but was still shocked when he ran into her at a party. It took a few minutes for Shelly to remember who he was and she seemed a little spaced out. She told him she dropped classes a lot and didn't care much about school anymore. Jack couldn't get Shelly out of his mind and he looked for her in the halls and lunchroom. Whenever he saw her, he talked to her and urged her to call the local drug abuse hotline. One day Shelly got so low, she listened to him. She found people who would listen to her problems without lecturing her. With the help of a counselor, friends like Jack, and her parents, Shelly gave up drugs and started regaining control of her life.
SIX WAYS TO SAY NO!
You've heard it a thousand times. But if you say "no" when friends ask you to try a drug or drink, it might make them think twice about doing it themselves. Saying "no" means you have the strength and brains to choose for yourself. Here are a few ways to do it.
1. Say you have something better to do. Then do it!
2. Point out that drugs interfere with your mental and physical skills, and you want to be at your best.
3. If you don't want to explain, just say "no, thanks." If that doesn't work, try a stronger "no way!" and leave.
4. Skip parties where you know drugs and alcohol will be available. Ban them from your own.
5. Hang out with friends who don't need drugs or alcohol to have fun. Make a commitment to be healthy and in control of your own future.
6. Make up a contract between you and your parents that says you will do your best to learn about the effects of illegal substances and discuss peer pressure with your parents. Your parents, in turn, agree to be available to you to discuss drugs and alcohol and not to drive after drinking.
DOES SOMEONE YOU CARE ABOUT HAVE A PROBLEM? HERE'S HOW YOU CAN HELP
Learn about the effects of drugs and alcohol and share the knowledge with friends. For example, smoking pot makes it hard to concentrate and remember things. Heavy pot smokers can become psychologically dependent and develop respiratory problems. PCP and LSD can cause permanent brain damage. Sniffing can produce heart failure or suffocation. Cocaine is more deadly and addictive than most people realize, and cocaine deaths have jumped dramatically in the last few years.
Get the names and phone numbers of local hotlines and drug abuse counseling services. They usually are listed in the telephone directory under crisis services, alcohol abuse information and treatment, or drug abuse information. Other sources are community and school bulletin boards, libraries, or the local newspaper. Ask your school or hospital about special programs for teenagers.
Interest your friends in activities they can enjoy without using drugs or alcohol. For example, teenagers on a Chicago suburb took it upon themselves to organize creative, positive ways to spend time, such as trips, movies, discussion groups, exercises, and community service projects. These activities not only discourage drug abuse, but build teens' self-esteem and give them roles to play in the community.
Learn how to talk to your peers and younger kids about the dangers of abusing drugs and alcohol. Many communities have programs that teach teenagers how to counsel others about the problems that teens face, including substance abuse. In one rural midwestern town, six high school athletes are trained to teach elementary and middle school students about drug and alcohol abuse.
Remind your friends that buying or possessing pot, cocaine, LSD, PCP, and most other drugs is against the law. Being arrested and getting a police record may not seem like a big deal now, but could be when applying for a job or college.
Remember, it takes courage to help a friend who has a drug problem. But a real friend will try.

How about #4 of the six ways to say no, skip parties. Well, parties aren't the only place drugs are available. How about school and everyday life, so maybe we should start skipping school (giggles).

The sixth way to "say no" is corny...you'd say hey mom, how about a contract? She'd say, how about a slap? This looks like it was written by someone who's in some Washington office building all the time and never gets outside.

Oh that picture is so cheezy. Plus is he supposed to be black? Why are black men always shown in these brochures? I resent this crap! Like why is he smiling and why doesn't he have normal eyebrows...his jacket I mean, it's like gross. Is he supposed to be happy? They should get input from other young people.

I think the part "If someone you know has a problem here's how you can help" is good because there's some abbreviations in there that catch your eye...PCP, LSD. I like that cause it makes you want to read it...maybe they could also tell true stories like how somebody on drugs gouged out their eyes.

▲ **Figure 1.** *Teenagers' responses to a brochure about helping a friend on drugs. Courtesy of The National Crime Prevention Council, Washington, DC.*

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Students' comments in the focus groups and think-aloud protocols showed they were accustomed to judging visuals, readily inferring meanings (intended or not) from the choice and design of graphics. Students remarked that many of the illustrations across the set of the brochures were "insulting," "corny," and even "pitiful." One student offered this sobering suggestion:

> I think they should take actual photographs of people on drugs. My friend's cousin is on drugs, well . . . he just sits there and laughs. . . . That's how gone he is. . . . I think they should use pictures of people just looking into space.

A one-page pamphlet, *Here are some SNAPPY ANSWERS to the Question: Want Some Alcohol or Other Drugs?* (shown in Figure 2), advises pre-teens how to "just say no" when offered drugs. At best, students found the idea of "snappy answers" dumb and condescending. Students' ridiculed answers such as "No thanks, I'm All-American. I'll stick to milk"—identifying them as glaringly inadequate for coping with the reality of America's playgrounds and streets.

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Insert Figure 2 here

Figure 2. Teenagers' responses to a flyer intended to give them ways to "say no."

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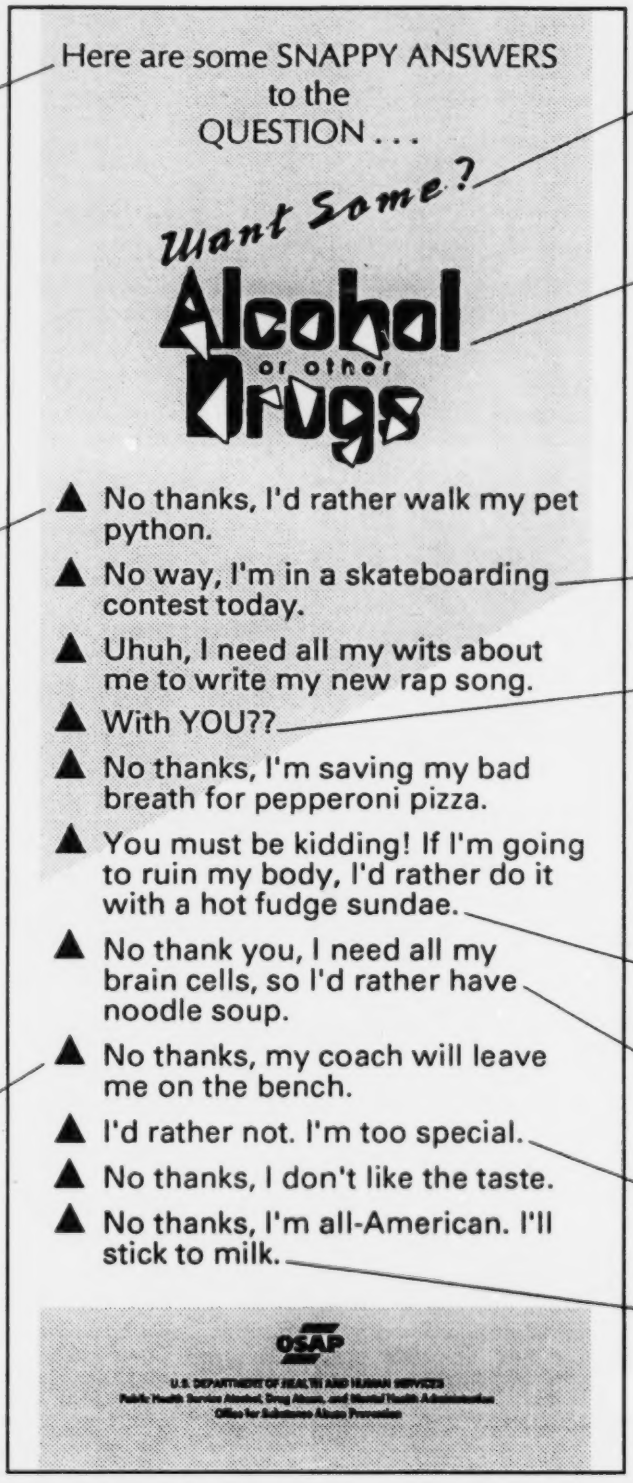
One student reasoned, "A pusher would have a more powerful comeback if someone was dumb enough to say one of these." Another student pointed out the danger of using inappropriate responses like "I'd rather have a hot fudge sundae," predicting "You'd get beat up if you said this." Students suggested that writers should "create a realistic scenario, maybe put themselves in a situation . . . like a realistic play, but just don't have a hokey script." Rather than offering "snappy answers," students advised prompting teens to "really think about drugs and what can happen. . . . Make 'em really think about their lives."


Here are some SNAPPY ANSWERS
to the
QUESTION . . .
Want Some?
Alcohol
or other
Drugs
▲ No thanks, I'd rather walk my pet python.
▲ No way, I'm in a skateboarding contest today.
▲ Uhuh, I need all my wits about me to write my new rap song.
▲ With YOU??
▲ No thanks, I'm saving my bad breath for pepperoni pizza.
▲ You must be kidding! If I'm going to ruin my body, I'd rather do it with a hot fudge sundae.
▲ No thank you, I need all my brain cells, so I'd rather have noodle soup.
▲ No thanks, my coach will leave me on the bench.
▲ I'd rather not. I'm too special.
▲ No thanks, I don't like the taste.
▲ No thanks, I'm all-American. I'll stick to milk.
OSAP
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

The title makes it sound like when you open this box the flyer asks you if you want some drugs or alcohol. Sick. And they don't say stuff we could really do, just "say no" with one of these "snappy" answers . . . which are lame at best.

Nobody says "Want some alcohol or other drugs?" That "or other" sounds really weird.

What are these little triangles? Oh no, I guess this is supposed to be acid. Why do they use drugs to decorate the letters if they are not trying to make using drugs seem fun? It seems odd to me.

It sounds more like a joke. Some people would just say "not with you," but these say, "I have to walk my python (laughs)." These answers are kind of stupid. It sounds like the author is a nerdy white guy that was cooped up in his office too long. Maybe they should tell why taking drugs is bad. They could say blow-by-blow what happens to you.

This one's OK, but I'd say "boarding."

This one's funny. You could say it like in a "smart" way. Like you could say it with an attitude. It's the only one I could say. The other ones would get you beaten up.

Get a grip! Only "goodi-goodies" talk like this.

Was this written by someone's grandma?

This is aimed at kids pretty much because it says "No thanks, my coach will keep me on the bench." But, it's not very interesting. They should use more pictures . . . if they really wanted to make an impact they should use pictures of a dead guy.

I like this one "I better not, I'm too special." NOT!

People never admit to drinking milk in front of friends. This is strange.

▲ **Figure 2.** *Teenagers' responses to a flyer intended to give them ways to "say no." Courtesy of the Office of Substance Abuse Prevention and the U.S. Department of Health and Human Services, Washington, DC.*

Again and again, students pointed to differences between their perspective and the author's (that is, their inferences about the author). Some recommended bridging the gap by involving the audience directly in the document design: "We [the students] should write it. . . . We should have a say." Students seemed to have an implicit model of the benefits of usability testing and participatory design. They felt that either "teenage drug users" or "kids who have had firsthand experience with someone who has had a problem with drugs" would reach the intended audience better because "adults can't really see."

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Insert Figure 3 here

Figure 3. *Smokeless Tobacco*

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In *Smokeless Tobacco* (shown in Figure 3), students found the message compelling and were positive about the author's attitude toward them as readers. They responded favorably to the author's "it's your decision" rhetorical stance. They thought the facts about what smokeless tobacco does to the body were effective and that imagining the gruesome effects made the topic real.

Although students liked the way the brochure was written, they criticized its ugly appearance. The original was printed on yellow-gold paper. Students thought the paper looked cheap and said that illustrations and graphics were needed "so you don't have to imagine what it looks like to have your mouth destroyed." As one student put it:

> I would include graphic pictures of actual tissue damage. This is what your mouth is going to look like in so many years. . .you know, stuff that is going to make the kids cringe. . .I think that might work.

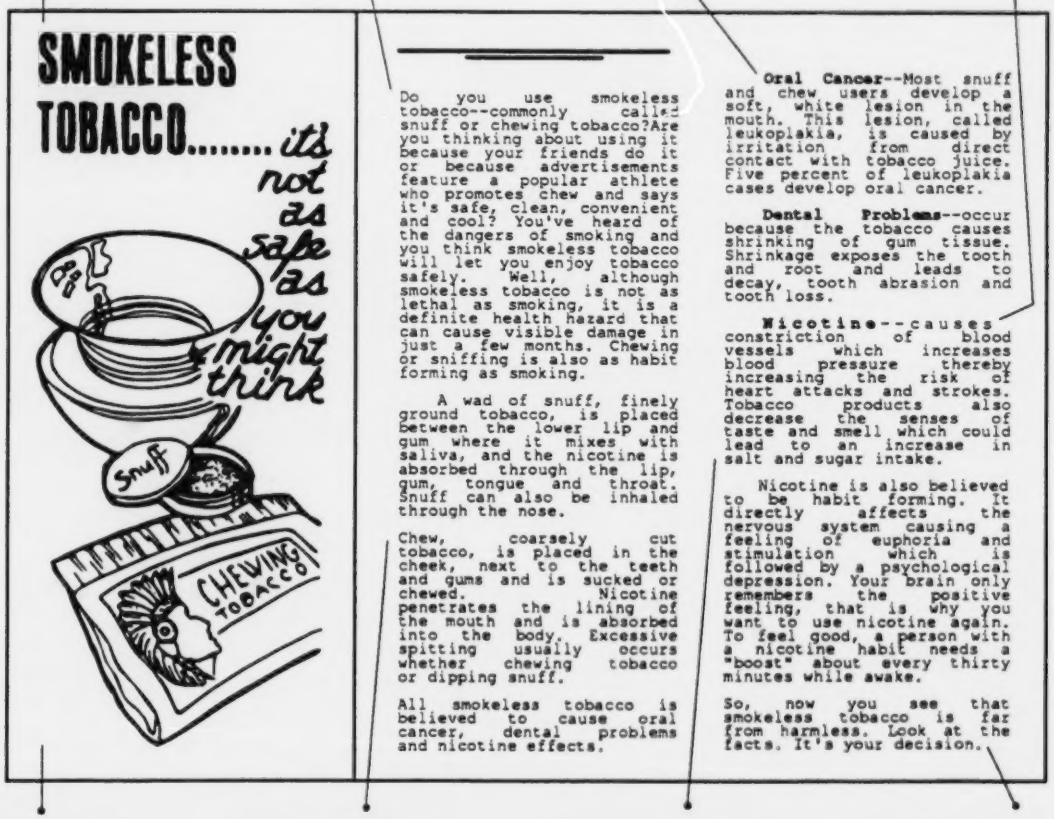
Some felt that a famous baseball player who had tissue damage should be featured (a strategy more often used in videos about the dangers of drugs). A number of students thought that a well-known and respected

Looking at the cover you don't get any idea of what this is about. The coffee cup and pouch don't have any effect on me. A little more color would be good. It reminds me of a Jehovah's witnesses brochure and you always try to slam the door in their face.

I think that they should make this more interesting. If I picked this up and looked inside I wouldn't want to read it. It's a lot of writing all close together. They should put those bubbles around it like the ones in cartoons.

It is good that instead of just telling you that you can get oral cancer they describe it. White lesions–that sounds horrible, sickening . . . but a picture would be more convincing. The words have big spaces between them. Why is that?

These facts say there are chemicals in chewing tobacco that you don't think about being in there. That's good. People who do it think it's just a thing you put in your mouth. By the way, this brochure looks typed–like they used a really old typewriter. It's ugly. Get a computer.


SMOKELESS TOBACCO..... it's not as safe as you might think
Snuff
CHEWING TOBACCO
Do you use smokeless tobacco--commonly called snuff or chewing tobacco?Are you thinking about using it because your friends do it or because advertisements feature a popular athlete who promotes chew and says it's safe, clean, convenient and cool? You've heard of the dangers of smoking and you think smokeless tobacco will let you enjoy tobacco safely. Well, although smokeless tobacco is not as lethal as smoking, it is a definite health hazard that can cause visible damage in just a few months. Chewing or sniffing is also as habit forming as smoking.
A wad of snuff, finely ground tobacco, is placed between the lower lip and gum where it mixes with saliva, and the nicotine is absorbed through the lip, gum, tongue and throat. Snuff can also be inhaled through the nose.
Chew, coarsely cut tobacco, is placed in the cheek, next to the teeth and gums and is sucked or chewed. Nicotine penetrates the lining of the mouth and is absorbed into the body. Excessive spitting usually occurs whether chewing tobacco or dipping snuff.
All smokeless tobacco is believed to cause oral cancer, dental problems and nicotine effects.
Oral Cancer--Most snuff and chew users develop a soft, white lesion in the mouth. This lesion, called leukoplakia, is caused by irritation from direct contact with tobacco juice. Five percent of leukoplakia cases develop oral cancer.
Dental Problems--occur because the tobacco causes shrinking of gum tissue. Shrinkage exposes the tooth and root and leads to decay, tooth abrasion and tooth loss.
Nicotine--causes constriction of blood vessels which increases blood pressure thereby increasing the risk of heart attacks and strokes. Tobacco products also decrease the senses of taste and smell which could lead to an increase in salt and sugar intake.
Nicotine is also believed to be habit forming. It directly affects the nervous system causing a feeling of euphoria and stimulation which is followed by a psychological depression. Your brain only remembers the positive feeling, that is why you want to use nicotine again. To feel good, a person with a nicotine habit needs a "boost" about every thirty minutes while awake.
So, now you see that smokeless tobacco is far from harmless. Look at the facts. It's your decision.

This cover is boring. A gruesome picture on the front would be an attention getter. I saw a brochure with a picture of a guy who used chewing tobacco and his face was all destroyed, it was really gross. They should use something like that. It was really effective. I'd never touch "chew" now.

I think sometimes just showing what it will do might show people how to use it. If the brochure tells what "chew" will do or where to put it in your mouth, kids will understand how to use it better. So if more people read this, more people might do it.

These facts are helpful. Even though you could say, "I use a brand that's not as harmful," you're still influenced by the brochure. This brochure might even convince me more if there was a real case in it–a testimonial from some baseball player who used chew.

Here they say it is your decision–you can use "chew" and get cancer or you can ignore it and you won't. That's good that they give you that choice. They respect us and think that we have a mind! Although, it would be better if they show you what it does to your mouth.

▲ **Figure 3.** *Teenagers' responses to a brochure about the dangers of smokeless tobacco. Courtesy of the Allegheny County Health Department, Pittsburgh, PA.*

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spokesperson would add credibility to the brochures. Others felt the focus should be on making the tobacco companies "the enemy," arguing "they don't care about us. . .they just want our money." As one ninth-grade female said to another,

> Those tobacco companies don't care if we die girl.
> But we're not fools they make us be.

In addition to pointing out problems caused by the lack of illustrations in *Smokeless Tobacco,* students made judgments about its graphic design and typography. Students did not have insider language for graphic and typographic features such as layout, typeface, word spacing, kerning, leading, or format. But even so, they readily saw these features, indicated by their pointing at them or by asking about the way the brochure looked. As one student observed:

> Once you read *Smokeless Tobacco* you like it, but when you glance it over, you think, boy, this is really cheap looking. Look at the letters and the spaces there between the words, like it was done in somebody's basement. It's so ugly you don't want to read it. If you didn't ask me to read it, I wouldn't have. . . even though I did like it.

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Insert Figure 4 here

Figure 4. *Pot: A Guide for Young People*

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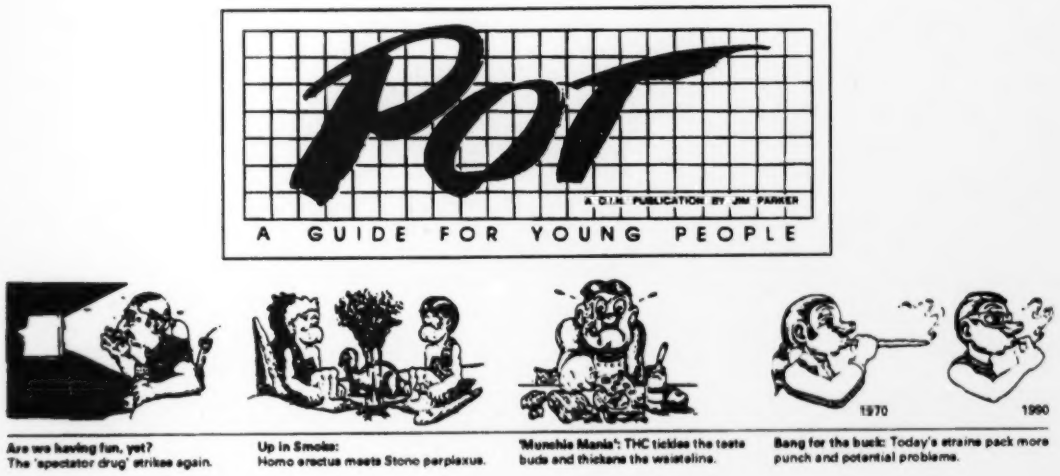
In other brochures we tested, we found that students' interpretations of pictorial graphics, especially representational illustrations and cartoon-like line art, were influenced by associations they made between what was pictured and their personal lives. For example, in *Pot: A Guide for Young People* (part of which is shown as Figure 4), students commented that the cartoons of a "stoned guy with the munchies watching TV" made pot smoking "look like fun." One student, a freshman in college, thought that it looked like an "ad for pot which featured the celebrities, Cheech and Chong, from those classic stoner films of the 1960s." To probe his interpretation further, we repeated his comments in our focus groups with


POT
A DIN PUBLICATION BY JIM PARKER
A GUIDE FOR YOUNG PEOPLE
1970
1990
Are we having fun, yet?
The 'spectator drug' strikes again.
Up in Smoke:
Homo erectus meets Stone perplexus.
'Munchie Mania': THC tickles the taste buds and thickens the waistline.
Bang for the buck: Today's strains pack more punch and potential problems.

▲ **Figure 4.** *The front cover and inside illustrations of a brochure about the potential hazards of smoking marijuana. Reprinted with permission of DIN Publications, Tempe, AZ.*

junior-high school students and were met with blank stares. Younger teens had never heard of Cheech and Chong. One eighth grader asked "who is this old guy with the long hair supposed to be? He's weird."

Members of the document design team may have been teenagers in the 1960s. Clearly, document designers need to be more aware that the same graphic can mean very different things to readers from different age groups. Readers' comments about the graphics made us realize the importance of paying attention to both the connotations of graphics and to their visual tone.[7]

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Insert Figure 5 here

Figure 5. *Marijuana: Health Effects*

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Readers found the words and pictures in the brochure *Marijuana: Heath Effects* (see Figure 5) to convey mixed messages. Some students believed it simultaneously encouraged and discouraged drug use. On one hand, they thought the picture of the marijuana leaf on the cover was attractive and that it presented a positive image of the drug. One tenth grader commented: "you could wear the leaf on your T-shirt or cap." On the other hand, they thought the fact-like presentation of the health effects made using marijuana seem harmful. They thought the words and pictures were "out of sync."

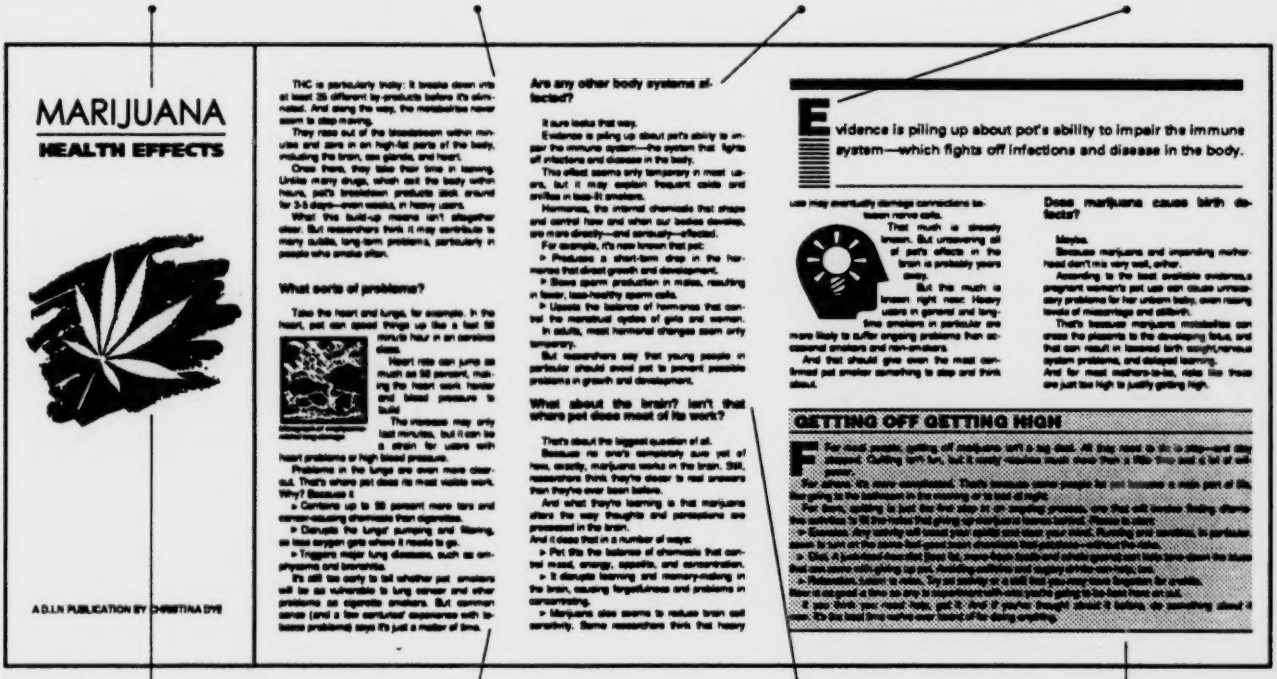
Students' responses to *Marijuana: Heath Effects* were unlike those to *Smokeless Tobacco* in that students who read the marijuana brochure thought the health effects were dull and unpersuasive while students who read about smokeless tobacco found the health effects fascinating and interestingly gory. Our research team got the impression that citing health effects might be persuasive if the teenager could look in the mirror and imagine himself or herself looking different because he or she used a particular drug. For example, students mentioned how turned off to drugs they would be if they looked in the mirror and saw rashes, pimples,

To really get people's attention show pictures of people who get high. Little cartoon characters . . . well no, not actually cartoon characters. That would be dumb, but not black and white pictures, colorful pictures.

A lot of this writing won't have impact. They should have a celebrity more in touch with kids telling them don't do drugs, like Madonna and show pictures (laughter). Well, maybe not Madonna but a celebrity—a heroine everybody could relate to.

This does not look interesting. I'd like to see the government come out with a brochure that is more on the offensive. Like how about showing a drug user as an astronaut to show how you can't do a good job if you're high.

This won't influence kids. Is this brochure aimed at parents? So parents can talk to kids? This medical stuff is boring. Who cares about the immune system? There should be more stuff parents could say to make kids care.



MARIJUANA

HEALTH EFFECTS

A D.I.N. PUBLICATION BY CHRISTINA DYE

What sorts of problems?

Are any other body systems affected?

What about the brain? Isn't that where pot does most of its work?

Evidence is piling up about pot's ability to impair the immune system—which fights off infections and disease in the body.

Does marijuana cause birth defects?

GETTING OFF GETTING HIGH

I think kids will pick up this brochure. I picked up brochures like this a few times. It's attractive—you could wear a hat with this leaf on it, you know (laughter). The picture of the marijuana leaf is cool. It might make them want to try it.

Pretty much anybody could have wrote this. All they had to do was to look up information about pot. . . Put it all together and you have something that's informational. If you read it. That's what this looks like. Someone was given an assignment. They went to the library. Then they put it together in this and photocopied it by the thousands.

When I read this it seemed that they didn't know the answers to the questions they asked. What they should do is try to get kids' attention in the beginning. Then have stories of people of different ages. With pictures telling the bad things that happened to them when they took drugs—stories of people who got killed or died while using drugs.

You get out of this what you want to get out of this. I mean if you're a pot smoker and you're trying to quit, sure, you can find out how to quit. You know, stuff like that. But if you don't care about quitting. You're just going to blow off this brochure. Not get anything out of it.

▲ **Figure 5.** *Teenagers' responses to a brochure about the potential hazards of smoking marijuana on health. Reprinted with the permission of DIN Publications, Tempe, AZ.*

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blisters, canker sores, or swollen (or missing) body parts (as could be the case in an alcohol-related traffic accident).

Alternatively, students "tuned out" almost immediately when the brochures depicted "inside the body" diagrams of the heart, lungs, or brain. This was especially so when the diagrams were of disembodied body parts such as line drawings of the heart, lungs, or brain. Several junior high-school students mentioned that the pictures of body parts reminded them of their "boring biology books" or "Mr. Hall's health class."

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Insert Figure 6 here

Figure 6. *Inhalants*

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A one-page handout, *Inhalants* (see Figure 6), was designed to offer older students (particularly freshmen in college) advice about the effects of sniffing aerosols and solvents. It came as part of a package of six one-page handouts on drug education topics such as alcohol or cocaine. Students in our study rated it "the best" of the six. They thought the topic was interesting and wanted to know more about the effects of inhalants, particularly what happens moment by moment. This handout promoted a lot of positive discussion of the sort "it makes you really think about it."

Yet still as the comments in Figure 6 show, some students were ambivalent about the effectiveness of the message. Students' criticisms arose mainly from the picture of the body. As one student questioned,

> I already know where my brain, heart, and lungs are. Do they think we're dumb? Can't they think of a better picture?

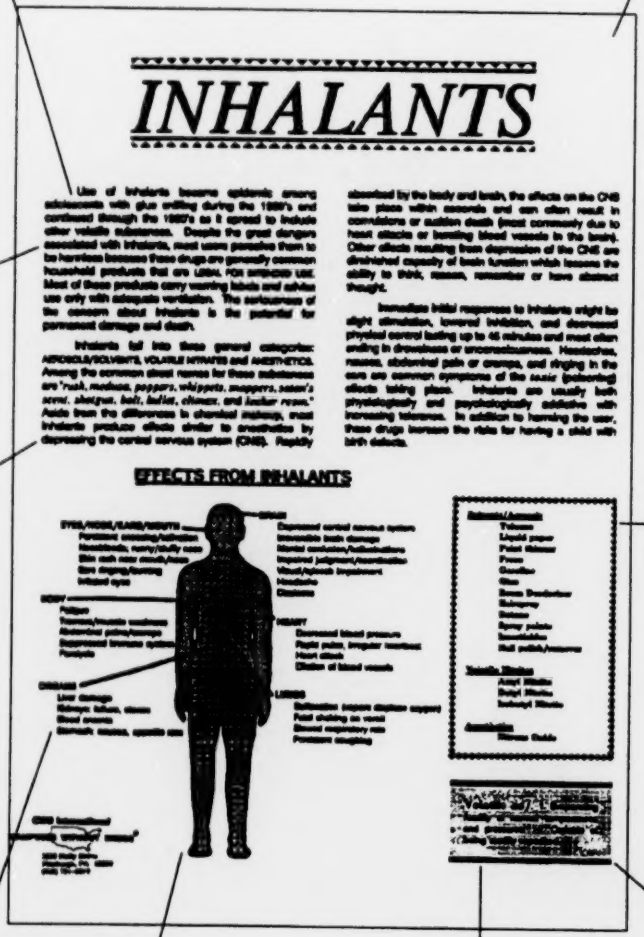
These students wanted different content about drugs from what they had seen already in brochures for younger audiences; as one college freshman student put it:

There shouldn't be so much text. Images and symbols are much stronger. The stacking of text into blocks is a good idea, but the "Inhalants" paragraph turns me off. It's obviously aimed more towards people with backgrounds like in science or math.

Here they highlight the word "perceived" but then they don't highlight the categories of inhalants. It's like inconsistent.

You know, I like the way that they have the big blocks of type that have important information other than just the facts like people die in alcohol related accidents. I mean most people know that. But I think that they could say a little more, have more indepth coverage of what inhalants are, and then go down to the diagrams.

I was thinking that sometimes these diagrams are effective. What if they used actual photos of things that happen that go along with drugs? Like things that happen, I mean, where the drugs come from, who's in danger, you know actual footage of what happened.



It went downhill in the diagram. I think they could have improved on the diagram and not made it such an eyesore. The way there's dots in there is kind of an eyesore. And it has no, it's just kind of a figure. It has not value.

They give you a definition of "volatile" way down at the bottom there and in the corner. And when it says "volatile" in the text, you have to go way down to the bottom to see what it means. And they don't define other terms at all, like "nitrates" what do they mean by that?

This looks to me like a health form, a handout you get at the nurse's office and never read. And putting these on this colored paper is like low budget, even if you folded it just like a brochure it would be more interesting than just simply giving the person, like, a handout which could be tom off a bulletin board, with frat announcements. It's much more interesting to have some kind of fold-out, even in white and black.

I didn't even bother to read the long, involved paragraphs at the top of the page. I was more interested in reading the diagram and the lists, I wanted more diagrams and less text. And I mean text that went together with the visuals.

You know, when they're talking about volatile nitrates, they list amyl nitrate, and, I mean, why are we supposed to know what these are? Am I getting anything extra by reading this? NO!

▲ **Figure 6.** *Teenagers' responses to a flyer intended to warn them about the dangers of inhalants. Courtesy of Campuses Without Drugs, International, Inc., Pittsburgh, PA.*

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> I learned this stuff in high school. Now I want more depth about what inhalants do. You know, make me really want to read this with some new stuff.

Teenagers Construct an Image of Who May Be Speaking to the Reader

Although clearly written text is important, a key to composing persuasive documents may lie in anticipating readers' perceptions who may be speaking, of the persona projected through the text. Much like document designers who may imagine their audience, readers may construct an image of the speaker as an individual or as an organization comprised of people—for example, they may imagine an author, an organizational identity, or a corporate voice. Of course this image may or may not bear any resemblance to the actual author(s) of the text.[8] And it may or may not be the image that authors intend to project. Walker Gibson—one of the best prose style analysts of the twentieth century and someone who has written extensively on persona (1966; 1969)—suggests that opening a text is like meeting a new person you've never met who wants to convince you of something. When readers meet someone or some organization as they do through a document, they may try to bring a neutral attitude to the meeting.

> But we are bombarded with impressions of such power. . . that the most we can do is reserve our impressions with as much readiness for correction as possible. . . .
>
> . . . .[W]hen someone tells us something, no matter how well we may know him, how adjusted to his appearance we may be, our understanding of *his* (italics in original) meaning is almost certainly more than verbal, involving a sense of the him that is talking, at the moment, in the flesh, before us . . . . (Gibson, 1972, pp. 6-7)

Research tells us that readers may indeed construct an image of the person or organization talking, an image of someone trying to make an impression on them. Hatch, Hill, and Hayes (1993), for example, found

that the essays high-school seniors write to gain acceptance to college are judged by university admissions counselors—at least in part—by the persona the student applicant projects. Admissions counselors in their study were asked to judge a set of twenty essays written by high-school students who wanted to enroll in a private university in the northeast. Before the admissions counselors made their judgments, the essays were first evaluated by a group of writing teachers who agreed on which essays projected a positive or negative image of the person who wrote it. Counselors were told that all twenty essays were written by students who had been wait-listed (that is, they were at the top of the list as the next best candidates to admit). Counselors were advised that all twenty students were about equal from an academic point of view—that is, they had comparable grades, recommendations, and Scholastic Aptitude Test (SAT) scores. Their task was to admit ten of the twenty students. The key difference in who the counselors chose to admit? The persona students projected through their writing.

Hatch and her colleagues found that the personality students projected was significantly correlated with the counselors' decisions. Counselors voted to admit students who conveyed a positive persona twice as often as those who projected a negative one. A positive persona was related to traits such as sincerity, sensitivity to other people, and eagerness to accept diverse perspectives. A negative persona was associated with insincerity, egocentrism, and insensitivity to diverse perspectives.

It is reasonable to believe that the persona projected by a document may play a powerful role in readers' acceptance of the message. Unfortunately, document designers have no way of introducing themselves and the organizations they work for beyond what they can make the reader see by means of words and graphics in various arrangements. The visible language of a document invites the reader to make guesses about who is speaking, and much like in a social situation, readers may infer a personality.

But unlike a face-to-face encounter—where conversants get multiple cues for assessing how the communication is going, for example, through gesture, intonation, facial expression, the setting, and so on—the reader of

a document has only words and images to go on. As document designers make their introduction through a document, their particular choices of words and graphics have an absolute kind of importance and finality. Unlike the give-and-take of face-to-face interaction where conversants can repair a failing conversation, document designers have no backup resources for fixing a bad interaction with a reader. Document designers get only one chance for dramatizing themselves, the organizations they work for, and their messages to the reader. One chance for presenting the reader with symbols that communicate effectively. Unlike meeting a new social acquaintance, where people tend to give the person the benefit of the doubt before forming a negative opinion, the reader of a document is by no means so ready to reserve judgment, to wait and see. "A reader can shut the book at any moment, at the slightest displeasure" (Gibson, 1966, p. 8).

Because our research team was interested in the persuasiveness of the drug education brochures, we wanted to know not only whether the message was presented in a convincing way, but also whether students constructed an image of the persona. Moreover, if readers imagined a person or organization behind that text, could that image influence their acceptance of the message? We uncovered these perceptions in three ways. First, during the protocols and interviews we found that students made comments about their impressions of the message and the author without being asked. Second, as mentioned above, in the focus groups we asked students directly about whether the message was effective and if they imagined an author as they read. Third, in the surveys, we asked students to rate the persuasiveness of the brochures, and if they imagined an author, to characterize the person or organization.[9]

Students reported that they sometimes "pictured an individual" writer, but more often, they described the author in terms of an institutional "they," citing health agencies or the government as author. One student put it this way:

> I think the writer is someone who is, you know, higher up . . . someone who would never come to my neighborhood, but who wants to control us . .

> . someone like very detached. . . . They might have a purpose, but they're doing it just because they need to put out information someone told them to put down.

For the most part, students alternately referred to the author as "someone" or "they." For example, "the writer is *someone* who thinks we're dumb, so *they* talk down to you like you can't think, can't decide on your own." Or, "I hear *someone* like the drug czar talking behind this" (pointing to prose that says "Just say no, I'm too special"). In a few cases, students wondered if there was more than one author:

> Well, I'm not sure who wrote it because *maybe there was somebody who wrote the words and someone else who did the pictures*. I'm not sure if they're the same. It seems like *they* had a purpose but yet. . .though, I can't point to it. I don't know.

Here are some of the positive and negative characterizations of the author students generated:

Positive

- "a kind and helpful person"
- "someone who cares, who feels the pain of drugs"
- "a religious person with a sincere mission"
- "someone who has seen the trouble drugs can get you into"
- "a policeman who doesn't have an attitude that young people are jerks"
- "an organization trying to give some decent advice"
- "a person who wants to tell it like it is"
- "a person with a little sense of humor"
- "a doctor, a person who knows what the actual health effects would be"

Negative

- "an earthy kind of weird white person"
- "not a person, a faceless organization"

- "a person paid minimum wage who is completely shut off from the outside world with outdated books and encyclopedias to work from"
- "a 'big nurse' type, out of touch, no kids, and never talks to teenagers"
- "a bureaucrat in some big office in Washington who is dealing with out-of-date information"
- "a Nancy Reagan 'wanna be'"
- "a person we wouldn't like to meet"
- "a white hippie who thinks he's cool, but he's not"
- "one who may know the facts, but nothing of real life"

Teenagers Imagine How the Speaker Views the Reader

Students' reactions to the drug brochures revealed that the selection, organization, and visual display of the content shaped not only what they interpreted about the message but also their image of the audience they believed was being invoked through the text. In other words, real readers may use textual cues, both visual and verbal, to construct an idea of the imagined or "implied reader" (Booth, 1961, p. 138). Readers rely on the words and pictures to make guesses not only about what the text may mean but about who is speaking to whom, about who is being "hailed" or "called out to" by the text, about the social relations between the speaker and the reader (Althusser, 1971).

Impressions created through the choice of content. From the point of view of an outside observer (that is, from our research team's perspective), document designers' writing suggested they hoped teenage readers would adopt the role of "a thoughtful person who cares about being healthy, especially about the long-term health of their internal organs." Teenagers, however—from junior-high to college—seemed "unfazed" by discussions of the long-term health effects of drugs such as anabolic steroids or alcohol, rarely commenting on them. They were interested in the immediate effects of drugs on the body, especially in physical damage they could see. The communicator's interest in getting students to ask questions about the long-term effects of drugs for themselves were largely unheeded.

Document designers also presented short narratives designed to depict "drug scenes" in which a smart teenager does the "right thing." These scenarios often went like this: boy goes to party meets new friend, new friend offers drugs, boy "says no" and everyone lives happily ever after. Although these scenarios were designed to engage the reader to imagine himself or herself in the situation of being asked "Want some alcohol or other drugs?" they were often viewed by students as "somebody else, not me" or "fake and unrealistic." Students did not take on the empathetic "that could be me" role the writers hoped for. Instead they said things like:

> I kind of hear Nancy Reagan's voice there. "Just say no" boys and girls. That's all you need to do.

Students' interpretations showed that readers may ignore (and in some cases resist) the roles that communicators may hope they will take on during their reading.

Impressions created through the visuals. Many of the brochures our research team reviewed used simple line drawings that seemed to caricature teenagers, unintentionally or not. The style of a good proportion of these drawings was reminiscent of the bad cartoons in early military manuals, where artists depicted strange-looking sergeants with pointy noses who gestured knowingly at a blackboard while forcing a smile. Another poor drawing style presented readers with Pillsbury Doughboy-like "pillow people" with friendly but personless snowman faces.

Some students asked if artists first drew a generic person and then made it a boy or a girl, depending on what was needed.[10] Other students who knew about "clip art" asked if the people who made the brochures used it at the last minute. Students commented repeatedly on the need for realistic photographs of young people in authentic situations; students exhibited no particular bias toward four-color photography, but realism seemed essential.

Recently some organizations that design drug education literature have moved toward more representational renderings they call "real style" (for example, companies such as Channing-Bete). Unfortunately, because the real style brochures were unavailable when we carried out this study, we did not test them to see if students liked them better. What became evident to us from the brochures we assessed was that teenage readers were already seasoned consumers of graphics. They knew what they liked and they wanted visuals that reflected an image of teens that showed they were smart, savvy, and in control.

Impressions created by attitude and tone. In the survey, we asked students if they could tell where the author thought the reader lived. Students checked suburbs (52%), rural (25%), and inner city (23%). Students tended to believe that the author viewed the reader as a teen from the suburbs who had never taken drugs and needed to "just steer clear of it" rather than "deal with it." In some cases, students from the inner city responded angrily to the idea that a brochure could make a dent on the problems people have with drugs. One African American female said this:

> This brochure is insulting to my intelligence because if they really wanted to do something about crack, they should take the money they are wasting on these dumb brochures and on studies like yours and go find out who's bringing it [the crack] here. These are the people who you should be targeting this to. Not one person in the projects, not one poor person manufactures crack. That's the bottom line. I don't have nothing to say about that brochure, it's insulting.
>
> Tell them to take the money and go stop the government. They know where this mess is coming from and who brings it here. It's people making money on other people's problems and that's exactly what they are doing. This is a business.
>
> What about the money for treatment centers? Where are they going to get the money for taking care of all these babies that are messed up behind this mess. This brochure does not lift their spirits, does not give them a job, doesn't give them

> money, doesn't give them respect—none of that. That's what causes people to go to drugs, because they don't have a life worth living.

Another focus group participant, building on her comments, captured why people from the African American community may respond indignantly to the "idea of solving drug problems through a brochure":

> I want to say this as diplomatically as possible . . . and I don't want to hurt any body's feelings, but for such a long time . . . heroin, cocaine, and all the rest of that drug mix (crack has been the most notable) . . . but for so many years they were in the cities and ghettos, black areas. With it tucked away in the ghettos, the rest of society just sort of covered it over, saying "well, it's not affecting me." Now crack is affecting the nucleus of our society, you know, the brains of our society. Now our society is becoming afraid. Don't you think those people that it's been affecting for all these years [the blacks] don't notice this?

Comments like this one show that readers may respond as much to the idea of a document as to the actual text. Whether a document will be a good vehicle for conversing with readers depends on the reader's situation, making it important for document designers to be sensitive to the rhetorical appropriateness of the genres they choose (see Berkenkotter & Huckin, 1995). Inner-city students in this study tended to reject the brochure as a legitimate form of discourse for building bridges between the communicator and the reader.

These results also tell document designers that readers' interpretations of content may be deeply entangled with their personal conditions and social position (with either their actual situation or the one they presume the speaker wants them to take on). We found that many teenage readers were unwilling to buy into the implicit social and rhetorical contract the document invited them to take on, refusing to accept the not so subtle ideology that told them "let us show you how to act."[11] Students did not accept their assigned role[12] as the imagined reader and were skeptical of the rhetorical tactics used invoke (even inscribe) them. Moreover,

students' perception of the imagined reader and the persona seemed to interact. Many students didn't like "who they were supposed to be" and didn't want to listen to someone who in their words "thought they were superior and who knew what was good for teenagers."

These data show that readers' interpretations of documents may arise dynamically on the basis of their

- knowledge, personal experience, values, and feelings
- ideas about what the text says, about the visual and verbal content
- impressions of who is speaking through the words and pictures (i.e., the persona, the organizational identity, or the corporate voice)
- perceptions of the speaker's tone and attitude toward the audience
- feelings about "the idea" of the document as an appropriate medium for communication about the content

While it is difficult to predict the particular mix that may be brought into play for any given document, this study makes clear that readers' constructions of meaning extend well beyond the ideas presented "in the text." Readers' interpretations of documents are shaped by thinking and feeling, by the subtle interplay of cognition and affect.

Why Evaluating Readers' Comprehension of Documents May Not Be Enough

This study puts into relief the genuine difficulty in taking the reader's point of view, especially when readers differ from document designers in age, race, culture, or experience. Readers' comments displayed sensitivity to the selection of content and to its presentation, to both informative and persuasive aspects of the brochures. In order to better understand the relation between what student readers understood and what they viewed as persuasive, our research team evaluated a subset of the drug education brochures further.

In particular, we compared students' comprehension of brochures with their judgments of how effective they were. We evaluated an original and a revised version of two different brochures, one about crack and another about marijuana. These brochures were produced by a single non-profit organization, the original versions in the early 1980s, the revisions in the early 1990s. Of interest was whether the revisions influenced either students' understanding of the main points or their evaluations of the brochure's effectiveness.

A problem in making the comparison was that the content of the original and revised versions were not exactly the same. The revision of the brochure about crack made many of the same points as the original text, but had a new layout and different photos. In the revised version of the marijuana brochure, document designers cut the text from eight panels to four panels and reconceived the drawings and layout. Since the brochures had changed in significant ways, our analysis provides only a crude index of the differences between them. We were interested only in comparing them for how well they were understood and how effective students thought they were. Having two versions of the same text allowed us to make a more ecologically valid comparison than assessing brochures that differed in topic, goals, and so on.

Our research team evaluated how well students understood the main points by comparing the original and revised versions of the brochures on content items that were very similar. We first analyzed the claims (e.g., drugs can ruin your life) and facts (e.g., crack enters the bloodstream on your first puff) presented in each of the four brochures.[13] Based on this analysis, we designed two questionnaires that could be used for comparing the original and revised versions, one for testing both versions of the crack brochures and another for the set of marijuana brochures. In addition to the comprehension questions based on the claims and facts, we asked questions about the effectiveness of the brochures, about how persuasive they were, and if they might have an effect on someone thinking about taking drugs.

The 140 students who participated (part of the same group as the main study) were between the ages of 17 and 21. They were enrolled in vocational or business schools; most were also working on toward a high school diploma or its equivalent. Students read a brochure silently to themselves and then answered the questionnaire; no student read both versions of the same brochure.[14]

==========

Insert Table 1 here

Table 1. Comprehending the Message Versus Judging Its Effectiveness: A Comparison of Brochures About Crack and Marijuana

==========

How students understood and assessed the brochures is presented in Table 1. As shown, the students understood the brochures quite well, scoring roughly 80% on each of the four versions. Students apparently had few difficulties with comprehending the main points—either the claims or the facts presented in the brochures. (Another possibility is that they already knew these main points, but in a separate question about this issue, students reported that they did not.) At least for the questions we asked, the revisions were equally good in terms of the clarity of main ideas. In fact, although the content had changed from the originals to the revisions, the revisions were remarkably consistent in helping students comprehend the same main ideas.

Although students understood the brochures, their assessment of how well they were working was mixed. As Table 1 shows, students were split in their opinions about how effective the brochures were. About half of them thought the brochures had "some effect" or "a lot of effect," while the other half rated both original and revised versions as having "little" or "no effect."

That so many readers rated the brochures as having "some effect" should please the document designers who worked on them. Generally speaking, the revisions improved readers' attitudes about how well the brochures

Comprehending the Message Versus Judging Its Effectiveness: A Comparison of Brochures About Crack and Marijuana

	Comprehension[a]	Effectiveness[b]			
Original	**Percent Correct**	**A Lot of Effect**	**Some Effect**	**Little Effect**	**No Effect**
Crack (n = 53)	82	3	48	33	16
Marijuana (n = 49)	78	3	35	31	31
Revised					
Crack (n = 15)	81	7	53	13	27
Marijuana (n = 13)	81	5	45	27	23

[a] Students who read the crack brochures answered a 21 point multiple-choice questionnaire; students who read the marijuana brochures answered an 18 point multiple-choice questionnaire.

[b] Values represent students' responses in percentages; 54 students responded to the original crack brochure; 45 to the original marijuana brochure; 15 responded to the revised crack brochure; 22 to the revised marijuana brochure.

▲ **Table 1.** *How teenagers understood the message of drug education literature in relation to how they rated the effectiveness of the message. As a measure of their comprehension, students responded to an objective test about the claims and facts presented in the brochures. As a measure of their assessment, students responded to the question, "If a teenager was thinking about trying crack (or marijuana), what effect do you think this brochure would have?" Results show that although most students were quite able to understand the claims and facts, about half of them did not find the brochures very effective.*

were working (although not significantly so). But these findings also suggest that for at least half of the readers, their ability to understand the brochures seemed unrelated to their assessment of effectiveness. In a separate analysis, we found no significant differences between the comprehension scores of students who rated the brochure as having "no effect" and those who rated it as having "a lot of effect." In other words, students tended to score about 80% in their comprehension whether they liked the brochure or hated it.

Had we evaluated the brochures only by exploring readers' comprehension of the main points, we would have likely overestimated how good the brochures were. Conversely, had we asked questions only about the persuasiveness, we could not have learned that the main points were, in fact, well understood. These results point to the value of employing observation-driven audience analyses and of collecting multiple views of what may be going on. In this way, document designers will have a better idea, for example, of whether to

- keep the content but develop a new rhetorical strategy for presenting the ideas visually and verbally (given that readers understand it, but dislike it)

- rethink the content and clarify the main points while keeping the presentation basically the same (given that readers don't understand it, but seem to like it)

- throw out the document and start over (given that readers don't understand it and don't like it)

Exploring Gatekeepers' Views of Drug Education Literature

We interviewed teachers, guidance counselors, and drug prevention advocates to learn about their opinions of the characteristics of the best brochures they had seen. We asked them how drug education brochures fit into the context of drug education, that is, in the context of one-on-

one counseling, class discussion, group therapy sessions, and so on. We focused mainly on their opinions about the visual and verbal features that were effective in communicating with young people. Of the five people we interviewed, all had over eight years of experience in their area. These interviews lasted between one and three hours.

All of the gatekeepers we spoke with mentioned the role of documents in giving students something to take home, something to reread. All thought drug education literature was useful and that it stimulated discussion. A second-grade elementary school teacher we interviewed, for example, felt the brochures were a good "motivator" and could be used as a "teaching aid to promote class conversation." While she felt the brochures could be "good food for thought," she pointed out:

> Often the brochures seem aimed at someone else rather than the kids. Maybe the parents. So I send them home with the kids to give to their parents. I don't know if they read them.

Interestingly, her comments about the visual design of the drug education literature echoed the sentiments of students:

> The only thing bad is some of the pictures. I often choose not to use the brochures or posters because of them. Now the other day, I got posters in the mail of people drinking at a party and smiling—not what I want to teach. I also got a poster of a bum drinking out of a paper bag and laying in the alley. You can't generate a good discussion from one of those things. And many times, the information that comes with these posters doesn't say how to use them in the classroom. We need that. Besides I think they have a tendency either to make drinking look like fun or like its something that only derelicts do. My coworker and I wind up devising our own materials.

A high school teacher who taught ninth grade commented on the writing of the brochures, particularly about the scenarios. Again, this teacher's interpretation reiterated some of the student's points about the need for more thoughtfully imagined stories about teens:

> I think using little stories to draw in the reader is pretty effective. To me, a story is better than listing a bunch of symptoms. But then again, I find that the stories in the brochures too often seem contrived and the kids really react negatively to them. So instead of the brochures, I clip out stuff from the newspaper or Ann Landers or *Readers' Digest*. This way we can use something more real. The kids always ask, "Is this a true story?" And even if I have no idea in the world I generally say "Yeah, I think it is based on a true story." Then they'll read it. Like if I use something from the *Readers' Digest* First Person Drama Awards, they love it, because those stories are true. Look at television, I mean we've got *Emergency Rescue* and *Cops*, all those scene-type shows. Kids watch those. If the story feels like something made up, they ignore it. If the story feels real and has a little drama to it, the kids tune in. I find you really have to do something spectacular to get their attention these days.

Unlike the teachers, the counselors we spoke with seemed to stress that drug education literature "should not give a school-type feeling." They mentioned using brochures or posters on the first day of counseling, typically when the parent or guardian is present. As one counselor told us: "I read the brochures together with the parent and student, using them as a way to initiate a conversation and some reactions to what might happen to somebody on drugs." He saw the brochures as fitting into the larger context of human-to-human counseling:

> To be honest, the brochures just aren't as effective as group discussion about stuff kids bring up themselves. I find if the brochure or poster has too much to do with school things, it becomes too much like work. They especially don't like those ones that seem like health class. To them, its just more stuff to learn. Then they just won't talk. They don't buy into the game.

Exploring Document Designers Feelings about Writing and Visualizing Drug Education Literature: The Dynamics of Action and Constraint

When it was possible to track down the individuals who worked on the brochures (as it turned out, this was incredibly difficult), we interviewed members of the document design team by telephone. We posed a set of open-ended questions about what they did in writing, illustrating, and designing the brochures. We asked them about their work, about their process in designing the documents, about who made decisions regarding the final content of the brochures, and about who had control over the final text. (These interviews lasted between twenty minutes and two hours each.)

We spoke with five document designers; all had seven or more years of experience. Two were subcontractors, that is, part-time employees, hired to create or update particular brochures. Three were full-time staff; they conceptualized the writing and design of a variety of documents in the area of health education and risk communication, from persuasive brochures about the dangers of drugs—to medical forms for the elderly—to instruction guides on breast feeding.

We found that writers and graphic designers of drug education literature were sometimes reluctant to talk about their work. On six different occasions, the response to our request for interviews went something like this:

> That brochure is not attributable to anyone. We receive lots of assignments, that was just one of them. We can't say who wrote it. There are so many hands in the process. And we can't say that what was printed was what anyone in THIS office wrote. We have to go now.

We suspected that some document designers were unwilling to talk about their work because they were either too busy or more likely, they were embarrassed by the outcome of the final brochures. Perhaps their writing and design had been "improved" by so many supervisors that they

couldn't (or wouldn't) recognize their work anymore. As experienced professionals know all too well, many a good design is ruined in the final stages of development where people without expertise in document design feel compelled to put their mark on the text. These people often introduce inconsistencies, sometimes changing the original text so much that its originator may no longer feel comfortable saying they worked on it.

The five document designers we did speak with were very informative. They characterized how the brochures were written, how they analyzed the audience, and the difficulties they faced in carrying out their work. One writer described the process of designing documents and of analyzing the audience in this way:

> Five or six of us begin by sitting around a table and throwing out ideas. The group talks about the goals and objectives and then one person sits down to grind it out. We spend most of the group sessions trying to figure out how to get the reader to see the point, you know, what would get through to them. Once a draft is ready, the rest of us review it, fixing it here and there. Then we send it outside for review. Anything can happen to the text from then on. We're not really responsible for what happens after we send it out.

Another writer explained how she imagined the audience during the planning of a brochure she worked on:

> When writing this, I realized kids worry more about their friends than they do about themselves. So we created this scenario where we were tried to show how a person can care about another person of the opposite sex without there being any sexual feelings. We also wanted to let the kids know that if you approach someone about drug abuse you may not get the result you want. We chose a boy helping a girl because it is less common.

This writer seems to be saying that drug education brochures may be most effective when readers are encouraged to think about helping their friends

rather than themselves. The writer is also sensitive to not being trite in depicting boy-girl relationships. Though these considerations are not unreasonable and show a concern for the audience, they do not address the main problems students had with the brochures, that is, with the selection of information about drugs, the portrayal of teenagers, and the persona the organizations projected.

Document designers were also concerned with the type of illustrations presented and expressed difficulties with finding good illustrators[15] who were sensitive to teenagers' needs. As one team leader said,

> The art work was done by a freelance artist. My team showed a bunch of illustrations to kids age ten to twenty. They picked this guy's work. One of my partners had a little trouble with the artist, well, he did some bizarre things with African-American hair that was 20 years out of date. We usually try to make our illustrations either of generic people[16] or to show diversity. I have to admit that the artist's newer stuff is better.

We found that for the most part, document designers had only general ideas about their audience(s). For example, they would describe their audience as "middle school kids" or "younger elementary school children." As one writer put it,

> After we figure out the target audience, we research the subject through our clearinghouse that carries a lot of information about what drugs are used and which ones are more popular. Then we try to think of some specific ways a kid could avoid using drugs. To find this we talk with people like policeman who go into schools and give presentations. Sometimes, we use feedback from teachers, pediatricians, and even parents. This way we can compile anecdotes about how drug education literature can be effective. Once we have the best stuff, we write it up, passing the draft back and forth until we are happy with it. Then it is reviewed it for technical accuracy by many people both inside and outside the agency. They can suggest changes wherever they like. Sometimes what we get back is VERY different from what left.

We asked the writer how her group knew if the audience would like the brochure and how the document design team gauged whether teens would respond positively to their selection of content and design. She responded, "We rely on our experts—they know better than we do."

Our team found that the organizations which produce drug education literature mainly employed classification-driven or intuition-driven audience analysis. Rarely did they evaluate their materials with the intended audience.[17] One writer told us that they had conducted focus groups to choose among line drawings. Another said they occasionally do surveys about what students know about drugs. None of the document designers we spoke with collected teenagers' moment-by-moment responses to their drafts, such as by asking teenagers to provide think-aloud protocols.[18] As far as one could tell, most of the brochures were printed without any direct input from the intended audience. Even when student readers' feedback was collected, it was typically too vague to be very helpful in making the nitty-gritty document design decisions such brochures entail.

In some cases, we found that document designers' attention was focused entirely on other issues than the reader. One writer explained it in this way:

> There are some things we do that have nothing to do with the reader. We decide how many ideas to include not based on the reader, but on how long the document can be. For example, a three-fold brochure can't explain more than two or three ideas. It's a crap shoot. You can't overpower the reader with ideas. If you give them three things you're lucky if two will work. . . . I rely more heavily on the experienced writers in my office for feedback on the brochures I write. . . . Another criteria for judging a good brochure is that it should be easily reproduced and laid out so it could be folded to be included in a mass mailing.

Although this writer talks as though experienced professionals regularly include only three ideas in a short brochure, we found that most of the

short brochures that we examined contained ten or more ideas; none contained as few as three. How many ideas readers can handle in a short brochure depends on what readers know, on how many of the ideas are new to them, and how related those ideas are—that is, how coherent[19] the text is—not on how many panels the brochure is. If it were true that students could understand no more than three ideas in a short brochure, students in our study should have scored less than 30% on the comprehension questionnaires they completed.

Furthermore, contrary to the belief of this writer about the best judge of a document, research has shown that "experienced writers in the office" are typically not very good in simulating readers' interactions with a document (for evidence, see Bond, 1980; Hayes, 1989). In fact, professionals may never consider the reader as a comprehender who engages with the document moment-by-moment. Writers we spoke with in this study, for example, did not imagine the audience as a reader, only as a stereotypic teen. When they tried to imagine someone interacting with the text, they used themselves as a model, remembering what it was like when they were a teen. This strategy is worrisome given that today's teenagers face challenges about drugs that are unlike "the way it was" when document designers were growing up, even for document designers in their early twenties.

Document designers we interviewed may have gotten a false sense of security about how well their messages were working because the brochures complied with in-house guidelines about the best way to compose drug education messages.

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Insert Figure 7 here

Figure 7. Some "DOs" and "DON'Ts" for composing drug education literature.

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Alcohol & Other Drug Terminology

Do Not Use	Use
Drunk Driving	Alcohol-impaired driving(because a person does not have to be drunk to be impaired)
Liquor (to mean any alcoholic beverage)	Beer, wine, and/or distilled spirits
Substance Abuse	Alcohol and other drug abuse
Substance Use	Alcohol and other drug use
"Abuse" when the sentence refers to youth, teens, or children (anyone under 21)	Use (OSAP aims to prevent use-not abuse-of alcohol and other drugs by youth)
Hard or Soft drugs	Drugs-since all illicit drugs are harmful
Recreational use of drugs	Use-since no drug use is recreational
Responsible use/drinking	Use-since there is risk associated with all use
Accidents when referring to alcohol/drug use and traffic crashes	Crashes
Drug Abuse Prevention or alcohol abuse prevention	Except when referring to adults. Use the phrase, "to prevent alcohol and other drug problems"
Mood-altering drugs	Mind-altering
Workaholic	(Since it trivializes the alcohol dependence problem)

Source:

Office of Substance Abuse Prevention, Prevention Plus II
US Dept of Health & Human Services, 1989, p. xvii.

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▲ **Figure 7.** *Suggested words and phrases for designing drug education literature. This handout is intended to provide guidelines for authors of drug education literature so they do not inadvertently encourage their audience to try alcohol or drugs.*

Figure 7 presents a set of U.S. government-developed guidelines for designing written materials for federal, state, or local drug prevention programs. Notice how the advice focuses writers' attention on words and phrases rather than on the big picture. There is certainly no guarantee that composing a text using the "do" phrases will produce a rhetorically effective text. One writer we interviewed told us that "his writing process always begins by checking the mandated lists of allowable words and phrases." We found that writers also received training in identifying phrases that may send mixed messages to teenagers. The following examples provide an idea of the differences between "mixed" messages and "clear" ones.

Mixed Message

I was stupid to do drugs. I almost threw away my whole career. But now that I'm off drugs, I've been able to turn out hit records just like I used to.

Clear Message

Taking drugs lessens your chance of succeeding at whatever career you would choose to pursue. Drugs close the doors of opportunity.

Mixed Message

Several crack addicts have compared the sensation they derive from the drug to sexual orgasm.

Clear Message

People who snort cocaine frequently develop nasal problems, including holes in the cartilage separating the nostrils.

Guidelines such as these may be marginally helpful but only marginally so. The guidelines completely miss the major problems that we found—problems that stemmed from document designers' failure to understand the differences between themselves and their readers and the reality of their readers' lives. Instead, the guidelines direct writers' attention to choosing the "right words" and to saying things in the "right way." Although avoiding the use of examples that glamorize drugs is no doubt an important consideration, this study shows that other rhetorical considerations should take priority. These other considerations—tone, register, persona, choice of content, believability of scenarios, quality of

illustrations—have a significant impact on whether teenagers read and on their acceptance or rejection of a document's message.

In the words of one document designer we interviewed, "the guidelines were intended to eliminate the chance for misinterpretation and to ensure that messages actually reach their intended audiences." We found that, instead, the guidelines seemed to act as mental straight-jackets,[20] focusing document designers' attention rather narrowly—on "not getting it wrong." The guidelines reinforced the misguided idea that if document designers choose precisely worded "just say no slogans," teenagers will be left with only one interpretation of the message. This myopic focus on crafting phrases appeared to take writers attention away from creating realistic portrayals of the difficult drug-related situations that teenagers often face.

The Document Designer's Dilemma: Standing Between the Reader and the Organization

The document designers we spoke with worked in a rather volatile environment. They had to deal with frequently changing mandates and directives from their superiors, many of whom had political ties to the U.S. congress or senate. The document designers we interviewed who were full-time staff had experienced several reorganizations, the result of which often left the team demoralized and worried about the security of their jobs. Sometimes reorganizations meant that bosses changed and the chain of command changed. One designer told us:

> One day you are working for someone who has an enlightened view of communication, the next day you work for someone who only cares about not offending people on the hill [referring to Capital Hill in Washington DC]. We have to watch our backs now. You never know when the ax will hit.

Several writers commented that they felt "overworked and underpaid" and that "things had been better before the cutbacks." In the words of one writer:

> I don't always do my best work, I can't. There isn't time to think around here. I got reamed for taking time to plan a poster I worked on last month. My supervisor said plâhning was a waste of time. He just wants me to hurry up and get it out.

Moreover, we found that the social and political context in which document designers worked appeared to reward them more for "not making textual waves" than for learning about their readers and inventing ways to talk with them. This made us rethink our early attitudes about what the problem with these documents was.

Early on in the project, members of our research team speculated that the problem was with the document designers' education—perhaps they had no formal training in writing or design. If true, the number of rhetorically ineffective decisions they made about the content, tone, persona, illustrations, and visual design were at least understandable, although still unfortunate for readers. We wondered if the document designers had any firsthand experience in usability testing or participatory design. Our assumption, we admit, was that bad writing or design could probably be traced back to bad writers and designers. But as these results show, writers and designers may not have always made the textual decisions that introduced the problems into the brochures. Writers and designers were "stuck in the middle" between the reader and the organization, and often it seemed the organization's ideas about content, tone, and persona took priority over finding out what readers wanted and expected.

These results suggest that only by examining the context in which documents are produced is it possible to get an idea of "where things may have gone wrong." We imagine that any of the following might adequately characterize the problem:

- The document designers were not very skilled in writing and design; they also had little understanding of the needs and expectations of a teenage audience.

- The document designers were skilled in writing and design, but their intuition-driven audience analyses gave them ideas about what teenagers needed and expected that were too vague and sometimes wrong. Given information about how teenagers actually read the brochures, the same document designers could have done a much better job.

- The document designers were skilled in writing and designing for a teenage audience, but their original high-quality drafts of the brochures were "re-designed by committee," making the final drafts less effective than the originals.

We suspect that the real answer lies between the second and the third possibility, that document designers were "up to the task," but they needed better information about the audience, and they were thwarted by having to work under ridiculous constraints. These findings suggest "missed opportunities" as well as outright losses for several important stakeholders in drug education literature:

First. And most important, teenage readers miss the chance to read something that could potentially discourage them from taking drugs.

Second. The taxpayers whose dollars funded the brochures lose because stacks of brochures sit in teacher's closets and guidance counselor's stock rooms unread. Gatekeepers selectively filter what readers see.

Third. The individual writers and designers lose because no matter who could be blamed for the design of a poor document, the document design group usually "takes the heat." Not exactly the way to make a document design group secure against threats of downsizing and outsourcing. Clearly, document designers need to assert themselves as reader advocates, demonstrating how everyone wins if the reader wins.

Fourth. The organization who produced the brochures lose. They forfeit the opportunity to promote a positive organizational identity. And even more important, they miss the chance to communicate effectively with

their readers about a real social problem they could have a positive impact on: drug abuse.

LESSONS LEARNED ABOUT AUDIENCE ANALYSIS AND CONSIDERING THE READER

This study shows us that when it comes to designing documents that inform and persuade, it is critical to consider the real readers' thoughts and feelings. If document designers who composed the brochures erred, it was in placing too much faith in the adequacy of intuition-driven audience analysis, in relying only on their ideas about readers they created in their minds. As teenagers comments made apparent, there was a significant gap between the readers document designers imagined and the real audience. This is not to say that document designers should not or will not construct an imagined reader (even if they try not to). As Walter Ong (1975) has said, to some extent, "the writer's audience is always a fiction," even when the representation of the audience is constructed on the basis of real readers (p. 17). Even so, document designers overlooked the importance of building their model of the reader, at least in part, by attending to the thoughts and feelings of real readers. Instead, they relied almost exclusively on personal reflection, experts, peers, guidelines, and source materials. They never anchored their intuitions with observations about teenagers' actual dealings with drugs, pushers, or the drug culture. Most had never listened to a teenager read and interpret a drug education brochure.

The results of this study also show that teenagers' interpretations of the brochures involved more than comprehending the words and pictures. More than simply understanding the content and structure. Although the content of a document and its design provide important, even crucial "instructions" for readers, instructions that allow readers to construct a coherent mental representation of the text,[21] they fall short of explaining fully whether people are moved by their reading. Moreover, they do not predict what sort of dialog the text may provoke the reader to engage in. Analyzing the audience, then, means considering how readers may

- construct the meanings of the prose and graphics on the basis of their thinking and feeling, cognition and affect
- interpret the role they are expected to take on, established by rhetorical clues set up by the design of the prose and graphics
- view the messenger of the text (e.g., the persona, organizational voice, or corporate identity) and the messenger's attitude about the reader
- respond to "the idea" of the text as a legitimate form of communication

As we saw, teenagers in this study tended to reject not only document designers' ideas about the imagined reader, resisting the role the text assigned them to take on, but they also had problems with the persona. These difficulties rendered many of the documents ineffective even though students comprehended them. From the perspective of the audience, the drug education literature seemed to present an ethos that showed "someone had noticed the problem" rather than "someone was doing something about it." Students' comments revealed that readers do not view documents as neutral dispensers of neutral information, even teenage readers.

These findings also raise the issue of management in document design. Failing to see the value of taking the reader seriously, of taking the time to plan the content around readers' needs can bring negative consequences, not only for readers—the most important constituency—but for employees and for the organization itself. Failing to consider the knowledge and values of the real audience can create a lasting negative identity for the organization that may take years to shake.[22] Building a positive identity (and here we are talking about more than logos, product naming, or graphic style) calls on organizations to develop a distinctive voice—through the interplay of text and graphics—that makes evident to audiences that their knowledge and values are understood, respected, and not taken for granted. Whether we call our audiences readers, users, customers, or stakeholders, they all want the same thing: to feel that someone has taken the time to speak clearly, knowledgeably, and honestly to them. However, it will not be possible to create a voice that speaks honestly, consistently, and clearly to audiences unless managers give

document designers the time, the financial resources, and the intellectual and artistic freedom to do their best work.

Moreover, these findings suggest that document designers themselves must take more responsibility for what happens to their documents. That some of the professionals we interviewed seemed unconcerned about what happened to their text "after it left their desk" raises questions of personal integrity.[23] Document designers must stand up for the reader, making certain they know what happens to the documents they work on. They must ensure that the readers' needs are indeed met in the final printed document. *In a real sense, all document designers—no matter where they work—stand between the organization and the reader. As the best and sometimes only link with the audience, document designers must take the responsibility for worrying about whose vision underlies the communications they create.* Implicitly or explicitly, this issue comes into play in the design of every document.

The study also shows, however, that even well-intentioned document designers who may try their best to meet the reader's needs may still produce prose and graphics that evoke anger or ridicule. This observation underscores how essential it is to "catch readers in the act of interpretation"—to test what we write and illustrate. In addition, these results point to the very real need for education and training programs that can help document designers increase their sensitivity to readers' cognitive and affective needs.

The next step in the research is to build on what was learned about analyzing the audience to develop educational materials aimed at improving document designers' awareness of how readers think and feel. Drawing on the findings of this study (and others), we are creating a multimedia program aimed at improving document designers' ability to anticipate the reader. In using the program, document designers will be encouraged to predict how they think a reader will respond to a document. They will then—by way of video clips, texts, and talk—have the opportunity to see how people actually interpret the prose and graphics. We believe that this type of reader-feedback training method[24] has considerable promise.

Written materials are only one component of effective drug prevention campaigns, but they are important because they provide the audience with something to hold in their hands, with something take home. These results suggest that the written materials used in many anti-drug campaigns may be failing because the documents are not designed with an awareness of the audience's knowledge, needs, and values. A deeper understanding of the audience is crucial if document designers are to be effective in anticipating how members of culturally diverse audiences may construct visual and verbal messages directed at them.

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Footnotes

[1] Consider the U.S. government's abysmal track record in designing effective brochures about AIDS prevention. The first brochure from the Surgeon General that was mailed to all households in the U.S. failed to include the word "condom" because conservatives thought its use encouraged sexual activity. Unfortunately, almost ten years later, the design of AIDS brochures continues to be perverted by political agendas. For example, CNN News (October, 1995) reported that when Senator Bob Dole decided to make a bid for the 1996 presidential election, his wife, Elizabeth Dole, who led an AIDS prevention task force, called a halt to the release of already-designed AIDS brochures to be distributed by the Red Cross. The reason? The illustrations were too explicit about how to put on a condom. Although writers could use the word "condom," illustrators had their hands tied regarding the type of drawings to make. Illustrators for the brochures had wisely chosen to depict realistic images of people putting on condoms. But out of fear that these drawings could be construed as sanctioning illicit sex, illustrators were sent back to the drawing board to make more technical, medical-looking illustrations. As this study will show, many teenage readers "tune out" illustrations that look like they came from their biology textbooks. The consequence: Exactly the wrong revisions implemented for the wrong reasons.

[2] For example, agencies such as the U.S. Department of Health and Human Services, the National Office for Substance Abuse Prevention, the National Crime Prevention Council, the Do It Now Foundation, Campuses Without Drugs, and the Pittsburgh Police Drug Abuse Resistance Education (DARE) Program. Our research team respects these organizations for their continued efforts to communicate effectively with their intended audiences. Our goal was not to criticize the documents of these organizations, but to better understand how readers respond to drug prevention literature in order to improve it.

[3] We thank Patricia Chi Nespor and Michele Matchett for their contributions in early phases of this project.

[4] In the context of drug education literature, gatekeepers disseminate communications such as brochures or public service announcements, choosing which brochures get put in waiting rooms, counselor's offices, and the like. Gatekeepers exert influence on whether audiences ever see the communications its organization may have bought, had commissioned, or been sent by other organizations. For a discussion, see the U.S. Department of Health's, *Pretesting in the health communications: Methods, examples, and resources for improving messages and materials* (1984).

[5] Special thanks to the teachers and students at Pittsburgh's Gateway Technical Institute, Riverview High School of Oakmont, the Community Literacy Center of Pittsburgh's Northside, the Jewish Community Center of Squirrel Hill, the Baptist Youth Group of Allegheny County, the Defense Tactics Institute of West Virginia, the Karate School of Pittsburgh, Robert Morris College, Carnegie Mellon University, Westinghouse High School of Pittsburgh, Shadyside Academy of Fox Chapel, and Carlynton Junior High of Rosslyn Farms, Pennsylvania.

[6] Interestingly, not all students in our study believed the picture in Figure 1 was of a black man. Interviews with writers on the document design team revealed that they were worried about the organization's choice of illustrator, reporting that "he always draws pictures of blacks that look like they're from that old TV show, *The Mod Squad*.

[7] Document designers also need to consider this issue when creating visuals for international audiences on the World Wide Web.

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[8] Research suggests that readers may consider the *actual* author as a critical piece of information. It may tell them "read this, he is always really good" or "don't read that, since he wrote it, it is probably lousy." These readers, who usually possess sophisticated topic knowledge about the subject matter and/or genre of the text, tend to form initial impressions about whether the text will be any good on the basis of the actual identity of the author (or organization). For example, readers have been known to judge the merit of scientific articles and proposals, at least in part, by who wrote them and by who is cited in the bibliography or references. Even when articles and proposals are judged using blind peer reviews, it is still sometimes easy to figure out who the author is by making inferences about who "shows up" in the references. Experts use these clues to develop hypotheses about what the author knows, what the text might say, what point of view it might take, how novel the arguments might be, or how truthful it might be (see, for example, Bazerman, 1985; Berkenkotter & Huckin, 1993; 1995; Blakeslee, 1993; Bobbitt-Nolen, Charney, 1993; Johnson-Crowley, & Wineburg, 1994; Kaufer & Geisler, 1989; Wineburg, 1991).

[9] Our methods may seem a bit intrusive in that we prompted readers to think about the author, something they may or may not have done ordinarily. By asking students about whether they imagined an author, we may have inadvertently influenced them to imagine one. However, in the interviews and think-aloud protocols, conditions in which we did not prompt students to address issues of persona, we found that students more than occasionally made remarks in reference to a person or a group they imagined speaking. We found that the documents we studied differed substantially in the degree to which they explicitly conveyed a sense of an author, and that readers drew on a variety of clues to infer an author, intended or not. We hypothesize that documents routinely present readers with images of organizational or corporate identity (e.g., about values, knowledge, credibility, politics, trustworthiness, attitude toward customers, and so on). Learning about how readers make judgments about an organization's identity is a difficult area to study for it requires choosing research methods that do not lead the reader. The data we collected suggest there is some psychological reality to the concept of persona. Figuring out how people construct ideas about organizational or corporate identity warrants more attention of document design researchers for it may determine substantially whether people choose to read or not, something experts in the graphic design community have known for a long time (see Meggs, 1992, pp. 380–409).

[10] Teenagers may be onto a strategy practiced by the communications departments of some organizations. For example, a revision of a 1991 brochure by the Ford Motor Company (Ford UK, Dagenham, England) changed the race of its company's employees. In the original version, which presented a view of Ford UK's forward-thinking hiring policies, 18 smiling employees stood side-by-side. Of the 18 workers, 5 were from minority groups: 4 blacks and 1 Indian with a beard and turban. In a revision, all of the black employees turned white, and the Indian executive lost his beard and turban. Citing an error by its ad agency, Ford paid each retouched worker $2,300. Source: CNN Prime News (February 21, 1996) and *Newsweek* (March 4, 1996, p. 55).

[11] For an interesting discussion of the social and ideological contracts between writers and readers that may be established through texts, see Brandt (1990), McCormick (1994), and Nystrand (1986).

[12] Long (1990) hypothesizes that the reader of fiction may be more willing to play or to accept a wider variety of roles than readers of non-fiction, especially when that non-fiction is addressing issues about which the reader already has strong opinions (p. 83). The findings of this study support his hypothesis.

[13] We found that the crack brochures made 24 claims and presented 30 facts, while the marijuana brochures made 7 claims and 15 facts (independent raters agreed 82% of the time about what were the claims and facts).

[14] We planned to randomly assign the four brochures within each class so that equal numbers of the "befores" and "afters" would be tested. However, some teachers whose students participated did not want students in the same class to read different versions of the brochures (they thought one group of students was getting the "bad" or "incorrect" information about drugs, and though untrue, this meant we could not test equal numbers of the original and revised versions).

[15] With few exceptions, the illustrators were freelancers who were brought in at the tail end of the development of the brochures. As this study shows, when the illustrations are not well integrated with the text, they can cause problems for readers.

[16] Notice that the team leader thinks that making generic teenagers is a good idea and that teenagers hated this.

[17] Surprisingly, the same situation exists for textbooks used in the schools from the elementary grades through college. Textbooks are rarely evaluated with students, only with gatekeepers such as teachers and members of school boards (see Chall & Squire, 1991). Moreover, the instructional materials used in thousands of corporate training classes are rarely evaluated for their effectiveness before they are "crash tested" on company employees.

[18] Although focus groups proved a useful method for gathering general impressions, the think-aloud protocols and the one-on-one interviews provided more detailed information about readers' interpretations. Unlike focus groups, these methods avoid the problems of peer influence on responses (see Kreuger, 1988). For example, some teenagers in our study seemed to be concerned with "acting cool" in front of other students. In testing a brochure about steroids with ninth-grade students, we noticed one boy who looked like he was trying out for the Pittsburgh Steelers. As students read the brochure, a number of them turned around and looked at him. During the focus group, students seemed reluctant to be specific, seeming to hold back their ideas. In an interview, a different young man asked, "Didn't you guys notice how uncomfortable questions about steroids made the class feel? He's popular, everybody likes him" [the athletic young man].

[19] For a discussion of what makes texts cohere, see, for example, Halliday & Hasan, 1976; Sanders, 1992; Witte, 1981.

[20] For a discussion of the limitations of guidelines and their potential constraining effect on creativity, see Duffy, 1987; Flower, Schriver, Haas, Carey, & Hayes, 1992; Steinberg, 1986; Wright, 1988c.

[21] Early research about how people understand text tended to emphasize the primary influence of the text's structure on comprehension, assigning little importance on interpretation to the influence of what may happen "outside of the text" (e.g., see Kintsch & van Dijk, 1978; van Dijk & Kintsch, 1983). More recent accounts, for example, Kintsch, 1990, suggests that people use cues from the situation to assign meaning to the text. Kintsch shows that readers of stories may produce a "situational model" of a text that is independent of their mental representation of the text. For implications of this work for writing, see Greene & Ackerman, 1995.

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[22] Consider for example, the IRS. Even when their document designers create well-designed tax forms and instruction guides, the media and taxpayers want to "take aim" sight unseen.

[23] See Dragga (1996) for a survey of writers' opinions about ethical practice in document design.

[24] The reader-feedback training method is based on a pedagogy designed by Schriver (1992a, 1992b) for helping students to become more sensitive to the needs of newcomers to computers. In an assessment of the method, she compared writers taught using it with those taught using guidelines and heuristics. Writers taught with the reader-feedback method improved significantly in their ability to anticipate readers' needs; this improvement was not found with writers who learned by guidelines and heuristics. That study assessed the method using paper-based instruction. The new study will employ the same underlying concept but will use multimedia to allow for more interaction and personal exploration during learning.

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